

3/10



PCT10

## RAW SEQUENCE LISTING

DATE: 01/24/2002

PATENT APPLICATION: US/10/030,351

TIME: 12:19:29

Input Set : A:\06727.008002.SEQLIST.TXT

Output Set: N:\CRF3\01242002\J030351.raw

ENTERED

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4 <110> APPLICANT: Lindsay, Stace
5      Mulroy, Robert
6      Semeniuk, Daniel
8 <120> TITLE OF INVENTION: Expression of Human Alpha-Fetoprotein in
9      Mammalian Cells
11 <130> FILE REFERENCE: 06727/008002
C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/030,351
C--> 13 <141> CURRENT FILING DATE: 2002-01-07
13 <150> PRIOR APPLICATION NUMBER: PCT/US00/00264
14 <151> PRIOR FILING DATE: 2000-01-06
16 <150> PRIOR APPLICATION NUMBER: US 60/114,995
17 <151> PRIOR FILING DATE: 1999-01-06
19 <160> NUMBER OF SEQ ID NOS: 7
21 <170> SOFTWARE: FastSEQ for Windows Version 4.0
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24 <211> LENGTH: 609
25 <212> TYPE: PRT
26 <213> ORGANISM: Homo sapiens
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32      20      25      30
33 Asp Ser Tyr Gln Cys Thr Ala Glu Ile Ser Leu Ala Asp Leu Ala Thr
34      35      40      45
35 Ile Phe Phe Ala Gln Phe Val Gln Glu Ala Thr Tyr Lys Glu Val Ser
36      50      55      60
37 Lys Met Val Lys Asp Ala Leu Thr Ala Ile Glu Lys Pro Thr Gly Asp
38 65      70      75      80
39 Glu Gln Ser Ser Gly Cys Leu Glu Asn Gln Leu Pro Ala Phe Leu Glu
40      85      90      95
41 Glu Leu Cys His Glu Lys Glu Ile Leu Glu Lys Tyr Gly His Ser Asp
42      100     105     110
43 Cys Cys Ser Gln Ser Glu Glu Gly Arg His Asn Cys Phe Leu Ala His
44      115     120     125
45 Lys Lys Pro Thr Pro Ala Ser Ile Pro Leu Phe Gln Val Pro Glu Pro
46      130     135     140
47 Val Thr Ser Cys Glu Ala Tyr Glu Glu Asp Arg Glu Thr Phe Met Asn
48 145     150     155     160
49 Lys Phe Ile Tyr Glu Ile Ala Arg Arg His Pro Phe Leu Tyr Ala Pro
50      165     170     175
51 Thr Ile Leu Leu Trp Ala Ala Arg Tyr Asp Lys Ile Ile Pro Ser Cys
52      180     185     190

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53 Cys Lys Ala Glu Asn Ala Val Glu Cys Phe Gln Thr Lys Ala Ala Thr
54      195                200                205
55 Val Thr Lys Glu Leu Arg Glu Ser Ser Leu Leu Asn Gln His Ala Cys
56      210                215                220
57 Ala Val Met Lys Asn Phe Gly Thr Arg Thr Phe Gln Ala Ile Thr Val
58 225                230                235                240
59 Thr Lys Leu Ser Gln Lys Phe Thr Lys Val Asn Phe Thr Glu Ile Gln
60      245                250                255
61 Lys Leu Val Leu Asp Val Ala His Val His Glu His Cys Cys Arg Gly
62      260                265                270
63 Asp Val Leu Asp Cys Leu Gln Asp Gly Glu Lys Ile Met Ser Tyr Ile
64      275                280                285
65 Cys Ser Gln Gln Asp Thr Leu Ser Asn Lys Ile Thr Glu Cys Cys Lys
66      290                295                300
67 Leu Thr Thr Leu Glu Arg Gly Gln Cys Ile Ile His Ala Glu Asn Asp
68 305                310                315                320
69 Glu Lys Pro Glu Gly Leu Ser Pro Asn Leu Asn Arg Phe Leu Gly Asp
70      325                330                335
71 Arg Asp Phe Asn Gln Phe Ser Ser Gly Glu Lys Asn Ile Phe Leu Ala
72      340                345                350
73 Ser Phe Val His Glu Tyr Ser Arg Arg His Pro Gln Leu Ala Val Ser
74      355                360                365
75 Val Ile Leu Arg Val Ala Lys Gly Tyr Gln Glu Leu Leu Glu Lys Cys
76      370                375                380
77 Phe Gln Thr Glu Asn Pro Leu Glu Cys Gln Asp Lys Gly Glu Glu Glu
78 385                390                395                400
79 Leu Gln Lys Tyr Ile Gln Glu Ser Gln Ala Leu Ala Lys Arg Ser Cys
80      405                410                415
81 Gly Leu Phe Gln Lys Leu Gly Glu Tyr Tyr Leu Gln Asn Ala Phe Leu
82      420                425                430
83 Val Ala Tyr Thr Lys Lys Ala Pro Gln Leu Thr Ser Ser Glu Leu Met
84      435                440                445
85 Ala Ile Thr Arg Lys Met Ala Ala Thr Ala Ala Thr Cys Cys Gln Leu
86      450                455                460
87 Ser Glu Asp Lys Leu Leu Ala Cys Gly Glu Gly Ala Ala Asp Ile Ile
88 465                470                475                480
89 Ile Gly His Leu Cys Ile Arg His Glu Met Thr Pro Val Asn Pro Gly
90      485                490                495
91 Val Gly Gln Cys Cys Thr Ser Ser Tyr Ala Asn Arg Arg Pro Cys Phe
92      500                505                510
93 Ser Ser Leu Val Val Asp Glu Thr Tyr Val Pro Pro Ala Phe Ser Asp
94      515                520                525
95 Asp Lys Phe Ile Phe His Lys Asp Leu Cys Gln Ala Gln Gly Val Ala
96      530                535                540
97 Leu Gln Thr Met Lys Gln Glu Phe Leu Ile Asn Leu Val Lys Gln Lys
98 545                550                555                560
99 Pro Gln Ile Thr Glu Glu Gln Leu Glu Ala Val Ile Ala Asp Phe Ser
100      565                570                575
101 Gly Leu Leu Glu Lys Cys Cys Gln Gly Gln Glu Gln Glu Val Cys Phe

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103 Ala Glu Glu Gly Gln Lys Leu Ile Ser Lys Thr Arg Ala Ala Leu Gly
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105 Val
109 <210> SEQ ID NO: 2
110 <211> LENGTH: 590
111 <212> TYPE: PRT
112 <213> ORGANISM: Homo sapiens
114 <400> SEQUENCE: 2
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116 1          5          10          15
117 Gln Cys Thr Ala Glu Ile Ser Leu Ala Asp Leu Ala Thr Ile Phe Phe
118          20          25          30
119 Ala Gln Phe Val Gln Glu Ala Thr Tyr Lys Glu Val Ser Lys Met Val
120          35          40          45
121 Lys Asp Ala Leu Thr Ala Ile Glu Lys Pro Thr Gly Asp Glu Gln Ser
122          50          55          60
123 Ser Gly Cys Leu Glu Asn Gln Leu Pro Ala Phe Leu Glu Glu Leu Cys
124 65          70          75          80
125 His Glu Lys Glu Ile Leu Glu Lys Tyr Gly His Ser Asp Cys Cys Ser
126          85          90          95
127 Gln Ser Glu Glu Gly Arg His Asn Cys Phe Leu Ala His Lys Lys Pro
128          100         105         110
129 Thr Pro Ala Ser Ile Pro Leu Phe Gln Val Pro Glu Pro Val Thr Ser
130          115         120         125
131 Cys Glu Ala Tyr Glu Glu Asp Arg Glu Thr Phe Met Asn Lys Phe Ile
132          130         135         140
133 Tyr Glu Ile Ala Arg Arg His Pro Phe Leu Tyr Ala Pro Thr Ile Leu
134 145         150         155         160
135 Leu Trp Ala Ala Arg Tyr Asp Lys Ile Ile Pro Ser Cys Cys Lys Ala
136          165         170         175
137 Glu Asn Ala Val Glu Cys Phe Gln Thr Lys Ala Ala Thr Val Thr Lys
138          180         185         190
139 Glu Leu Arg Glu Ser Ser Leu Leu Asn Gln His Ala Cys Ala Val Met
140          195         200         205
141 Lys Asn Phe Gly Thr Arg Thr Phe Gln Ala Ile Thr Val Thr Lys Leu
142          210         215         220
143 Ser Gln Lys Phe Thr Lys Val Asn Phe Thr Glu Ile Gln Lys Leu Val
144 225         230         235         240
145 Leu Asp Val Ala His Val His Glu His Cys Cys Arg Gly Asp Val Leu
146          245         250         255
147 Asp Cys Leu Gln Asp Gly Glu Lys Ile Met Ser Tyr Ile Cys Ser Gln
148          260         265         270
149 Gln Asp Thr Leu Ser Asn Lys Ile Thr Glu Cys Cys Lys Leu Thr Thr
150          275         280         285
151 Leu Glu Arg Gly Gln Cys Ile Ile His Ala Glu Asn Asp Glu Lys Pro
152          290         295         300
153 Glu Gly Leu Ser Pro Asn Leu Asn Arg Phe Leu Gly Asp Arg Asp Phe
154 305         310         315         320

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Input Set : A:\06727.008002.SEQLIST.TXT

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155 Asn Gln Phe Ser Ser Gly Glu Lys Asn Ile Phe Leu Ala Ser Phe Val
156          325          330          335
157 His Glu Tyr Ser Arg Arg His Pro Gln Leu Ala Val Ser Val Ile Leu
158          340          345          350
159 Arg Val Ala Lys Gly Tyr Gln Glu Leu Leu Glu Lys Cys Phe Gln Thr
160          355          360          365
161 Glu Asn Pro Leu Glu Cys Gln Asp Lys Gly Glu Glu Glu Leu Gln Lys
162          370          375          380
163 Tyr Ile Gln Glu Ser Gln Ala Leu Ala Lys Arg Ser Cys Gly Leu Phe
164 385          390          395          400
165 Gln Lys Leu Gly Glu Tyr Tyr Leu Gln Asn Ala Phe Leu Val Ala Tyr
166          405          410          415
167 Thr Lys Lys Ala Pro Gln Leu Thr Ser Ser Glu Leu Met Ala Ile Thr
168          420          425          430
169 Arg Lys Met Ala Ala Thr Ala Ala Thr Cys Cys Gln Leu Ser Glu Asp
170          435          440          445
171 Lys Leu Leu Ala Cys Gly Glu Gly Ala Ala Asp Ile Ile Ile Gly His
172          450          455          460
173 Leu Cys Ile Arg His Glu Met Thr Pro Val Asn Pro Gly Val Gly Gln
174 465          470          475          480
175 Cys Cys Thr Ser Ser Tyr Ala Asn Arg Arg Pro Cys Phe Ser Ser Leu
176          485          490          495
177 Val Val Asp Glu Thr Tyr Val Pro Pro Ala Phe Ser Asp Asp Lys Phe
178          500          505          510
179 Ile Phe His Lys Asp Leu Cys Gln Ala Gln Gly Val Ala Leu Gln Thr
180          515          520          525
181 Met Lys Gln Glu Phe Leu Ile Asn Leu Val Lys Gln Lys Pro Gln Ile
182          530          535          540
183 Thr Glu Glu Gln Leu Glu Ala Val Ile Ala Asp Phe Ser Gly Leu Leu
184 545          550          555          560
185 Glu Lys Cys Cys Gln Gly Gln Glu Gln Glu Val Cys Phe Ala Glu Glu
186          565          570          575
187 Gly Gln Lys Leu Ile Ser Lys Thr Arg Ala Ala Leu Gly Val
188          580          585          590

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191 &lt;210&gt; SEQ ID NO: 3

192 &lt;211&gt; LENGTH: 2032

193 &lt;212&gt; TYPE: DNA

194 &lt;213&gt; ORGANISM: Homo sapiens

196 &lt;400&gt; SEQUENCE: 3

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198 aatcaatttt tttaattttc ctactaaatt ttactgaatc cagaacactg catagaaatg 120
199 aatatggaat agcttccata ttggattctt accaatgtac tgcagagata agtttagctg 180
200 acctggctac catatttttt gccagtttg ttcaagaagc cacttacaag gaagtaagca 240
201 aaatggtgaa agatgcattg actgcaattg agaaaccac tggagatgaa cagtcttcag 300
202 ggtgtttaga aaaccagcta cctgcctttc tggaagaact ttgccatgag aaagaaattt 360
203 tggagaagta cggacattca gactgctgca gccaaagtga agagggaaga cataactgtt 420
204 ttcttgcaca caaaaagccc actccagcat cgatcccact tttccaagtt ccagaacctg 480
205 tcacaagctg tgaagcatat gaagaagaca gggagacatt catgaacaaa ttcattttatg 540
206 agatagcaag aaggcatccc ttctgtatg cacctacaat tcttctttgg gctgctcgct 600

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TIME: 12:19:29

Input Set : A:\06727.008002.SEQLIST.TXT

Output Set: N:\CRF3\01242002\J030351.raw

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208 aggcagcaac agttacaaaa gaattaagag aaagcagctt gttaaataca catgcatgtg 720
209 cagtaatgaa aaatTTTtggg acccgaaact tccaagccat aactgttact aaactgagtc 780
210 agaagTTTtac caaagTTaat tttactgaaa tccagaaact agtcttgat gtggcccatg 840
211 tacatgagca ctgTTgcaga ggagatgtgc tggattgtct gcaggatggg gaaaaaatca 900
212 tgtcctacat atgttctcaa caagacactc tgtcaaacaa aataacagaa tgctgcaaac 960
213 tgaccacgct ggaacgtggt caatgtataa ttcattgcaga aaatgatgaa aaacctgaag 1020
214 gtctatctcc aaatctaaac aggtTTTTtag gagatagaga tTTtaaccaa tTTtcttcag 1080
215 gggaaaaaaa tatcttcttg gcaagTTTTg ttcattgaata tTcaagaaga catctcagc 1140
216 ttgctgtctc agtaattcta agagttgcta aaggatacca ggagttattg gagaagtgtt 1200
217 tccagactga aaacctctt gaatgccaag ataaaggaga agaagaatta cagaaatata 1260
218 tccaggagag ccaagcattg gcaaagcgaa gctgcggcct cttccagaaa ctaggagaat 1320
219 attacttata aaatgcgttt ctgTTgtctt acacaaagaa agccccccag ctgacctcgt 1380
220 cggagctgat ggccatcacc agaaaaatgg cagccacagc agccacttgt tgccaactca 1440
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222 gtatcagaca tgaaatgact ccagttaaacc ctgggtgttg ccagtgtctc acttcttcatt 1560
223 atgccaacag gaggccatgc ttcagcagct tgggtggtgga tgaaacatat gtccctcctg 1620
224 cattctctga tgacaagttc attttccata aggatctgtg ccaagctcag ggtgtagcgc 1680
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226 aggaacaact tgaggctgtc attgcagatt tctcaggcct gttggagaaa tgctgccaaag 1800
227 gccaggaaca ggaagtctgc tttgctgaag agggacaaaa actgatttca aaaactcgtg 1860
228 ctgctttggg agtttaaatt acttcagggg aagagaagac aaaacgagtc tttcattcgg 1920
229 tgtgaacttt tctctttaat tttactgat ttaacacttt ttgtgaatta atgaaatgat 1980
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233 <211> LENGTH: 1773
234 <212> TYPE: DNA
235 <213> ORGANISM: Homo sapiens
237 <400> SEQUENCE: 4
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240 tacaaggaag taagcaaaat ggtgaaagat gcattgactg caattgagaa acccactgga 180
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243 ggaagacata actgtTTtct tgacacaaaa aagccactc cagcatcgat cccacttttc 360
244 caagtTccag aacctgtcac aagctgtgaa gcatatgaag aagacaggga gacattcatg 420
245 aacaaattca tttatgagat agcaagaagg catcccttcc tgtatgcacc tacaattctt 480
246 ctttgggctg ctgcttatga caaaataatt ccatcttgct gcaaagctga aaatgcagtt 540
247 gaatgcttcc aaacaaaggc agcaacagtt acaaaagaat taagagaaag cagcttgTTa 600
248 aatcaacatg catgtgcagt aatgaaaaat tttgggaccc gaactttcca agccataact 660
249 gttactaaac tgagtcagaa gtttaccaaa gTTaattTTa ctgaaatcca gaaactagtc 720
250 ctggatgtgg cccatgtaca tgagcactgt tgcagaggag atgtgctgga ttgtctgcag 780
251 gatggggaaa aaatcatgtc ctacatatgt tctcaacaag aactctgtc aaacaaaata 840
252 acagaatgct gcaactgac cacgctggaa cgtggtcaat gtataattca tgcagaaaat 900
253 gatgaaaaac ctgaaggtct atctccaaat ctaaacaggt ttttaggaga tagagatttt 960
254 aaccaatttt cttcagggga aaaaaatatc tcttggcaa gttttgttca tgaatattca 1020
255 agaagacatc ctgagcttgc tgtctcagta attctaagag ttgctaaagg ataccaggag 1080
256 ttattggaga agtgtttcca gactgaaaac cctcttgaat gccaaagataa aggagaagaa 1140
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## VERIFICATION SUMMARY

DATE: 01/24/2002

PATENT APPLICATION: US/10/030,351

TIME: 12:19:30

Input Set : A:\06727.008002.SEQLIST.TXT

Output Set: N:\CRF3\01242002\J030351.raw

L:13 M:270 C: Current Application Number differs, Replaced Current Application No

L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date